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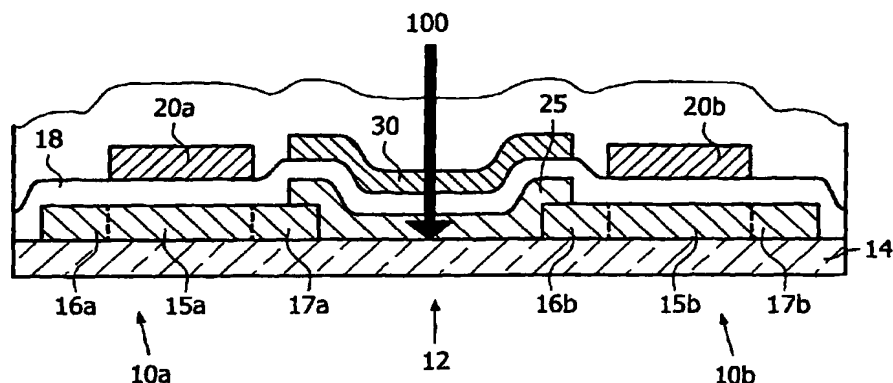
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(54) Title: ACTIVE MATRIX PIXEL DEVICE WITH PHOTO SENSOR



(57) Abstract: An active matrix pixel device is provided, for example an electroluminescent display device, the device comprising circuitry supported by a substrate and including a polysilicon TFT (10) and an amorphous silicon thin film PIN diode (12). Polysilicon islands are formed before an amorphous silicon layer is deposited for the PIN diode. This avoids the exposure of the amorphous silicon to high temperature processing. The TFT comprises doped source/drain regions (16a, 17a), one of which (17a) may also provide the n-type or p-type doped region for the diode. Advantageously, the requirement to provide a separate doped region for the photodiode is removed, thereby saving processing costs. A second TFT (10b) having a doped source/drain region (16b, 17b) of the opposite conductivity type may provide the other doped region (16b) for the diode, wherein the intrinsic region (25) is disposed laterally between the two TFTs, overlying each of the respective polysilicon islands.



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